REMARKS

Claims 5 and 10 are in this application. Claims 1-4 and 6-9 have been cancelled. Support for new claim 10 is found throughout the specification including a page 3, lines 15-18; page 9, lines 18-23; and second paragraph on page 10-page 12, line 4.

The instant patent application describes and claims a simple and sensitive procedure to detect brain plasticity. The fly model described and claimed in this patent application is inventive because long-term behavioral changes induced by a chemical agent can be identified by measuring a particular locomotor activity. The patent application relates to a method of treating flies, where flies are grown for a particular period in a standard medium containing the test compound, and then shifted to normal medium for a given period.

Non-obviousness of the invention is clear from a lack of fly model of drug screening in which there is chronic treatment with neuroactive compounds, followed by withdrawal from chronic treatment.

Claims 5 and 10 are patentable over the combination of Sharma, Wolf and Faeldt further in view of Saba.

Both Sharma et al. (US 6,541,193B2) and Saba (US 2003/0219782A1) disclose the use of genetically mutated flies which are not used in the present invention. As disclosed in the examples, the *Drosophilia melanogaster* fruit flies are wild type Oregon-R strain. The present invention relates to drug induced behavioral changes. Saba et al. also describes a biochemical test to identify an agent that specifically modulates sphingolipid metabolism.

Wolf et al. (J. Neuroscience 2002, 22, 11045-11044) describes use of acute ethanol treatment which is different from the chronic treatment claimed in this application. Claim 10 also defines that the flies are exposed to one or more one or more drugs that act on the central nervous system which are selected from the group consisting of convulsants, mood-stabilizers, and anticonvulsants. This differs from acute exposure to ethanol which is what is disclosed in Wolf. Furthermore, the flies used in Wolf are also mutants.

Faeldt et al (US 2004/0076583A1) because the present invention provides a fly model of locomotor plasticity induced by chronic drug treatment and drug withdrawal whereas US 2004/0076583A1 describes a method of locomotor recording and mentions about adult

locomotor effect of acute treatment of adults with addictive substance and with hydroxyurea to Drosophila larvae.

Different biological processes are considered to underlie short and long term neural plasticities. Locomotor effect may be measured in animal models of these neural plasticities. The present invention claims a fly model of long term plasticity that spans a range of up to 30 days. None of the prior art describes such a long term plasticity. Given the difference in neural plasticities involved in different models, one would not certainly have a reasonable expectation of using the prior art to arrive at the present invention.

One of ordinary skill the art would not have developed the claimed model based on the cited art.

Therefore, since no combination of the cited references makes the claimed invention obvious, it is respectfully requested that the rejection be withdrawn.

Applicants submit that the present application is in condition for allowance and favorable consideration is respectfully requested.

Therefore, as none of the claims are anticipated, it is respectfully requested that the rejection be withdrawn.

It is submitted that the application is in condition for allowance and favorable consideration is respectfully requested.

Respectfully submitted,

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